**Lesson Plan** Ch 2 Day 1

**Course/Lesson** 2.1 **Algebra 2** **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N3 Use number sense to estimate and determine if solutions are reasonable

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities

G6 Demonstrating deductive reasoning and mathematical justification

P1 Model the concepts of variables, functions and relations

P2 Translating between tabular, symbolic or graphic representations of functions

D7 Making inferences from data in charts tables and graphs

**Objective(s)**  Analyze and graph relations

Find functional values

**Opening :** review test remind make-up..pre-requisite skills p. 55 # 1 – 24

5 minute opener on ppoint slide 104

**Strategies:** After testing on Ch 1

Intro to Ch 2 Power point slides 1- 19

Technology: Use graphing calculator to compare and contrast graphs in small groups

**Critical Thinking/Questions:** Find the value of *k* so that the equation below has the solution set {-3}.

3(2*x* - 1) = *x*(2 - *k*)

**Closing:** review p. 55 # 1 - 24

**Assessment:** Skills 2.1 (worksheet—upload to Edline)

**Lesson Plan** Dqy 2

**Course/Lesson** 2.2 and 2.3 **Algebra 2** **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N3 Use number sense to estimate and determine if solutions are reasonable

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities

M4 Demonstrate the concept of measurement as it applies to real-world experiences

G6 Demonstrating deductive reasoning and mathematical justification

D7 Making inferences from data in charts tables and graphs

P1 Model the concepts of variables, functions and relations

P2 Translating between tabular, symbolic or graphic representations of functions

P5 Analyze real-world relationships that can be modeled by elementary functions

**Objective(s):** Identify linear equations and functions

Write linear equations in standard form and graph them

Find and use the slope of a line

Graph parallel and perpendicular lines

**Opening:** pp slide 107

**Strategies:** Review problems from Skills 2-1 using Think Pair Share strategy

examples powerpoint slides 21-44

**Critical Thinking/Questions:** Graph the equations x + y = 0 and x + y = 5 on a coordinate plane. Compare and contrast the graphs

**Closing:** Review and share comparisons and contrasts of graphs in critical question.

Online quiz 2-1—email results

**Assessment:** Skills Practice 2.2 and 2.3

**Lesson Plan** Day 3

**Course/Lesson** 2.4 and quiz **Algebra 2** **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities

A4 Solving algebraic equations

G3 Solving problems using coordinate methods as well as synthetic and transformational methods

P5 Analyze real-world relationships that can be modeled by elementary functions

G6 Demonstrating deductive reasoning and mathematical justification

**Objective(s):** Write an equation of a line given the slope and a point on the line

Write an equation of a line parallel or perpendicular to a given line

**Opening:** pp slide 109

Online self check and ACT review

**Strategies:** examples PP slides 46-57

**Critical Thinking/Questions:** Write a linear equation whose graph is between the graphs of x + y = 0 and x + y = 5

**Closing:** Review graphs of critical question and quiz 2-1 to 2-2—resources p.64

**Assessment:** Study Guide 2-4

**Lesson Plan** Day 4

**Course/Lesson** 2.5 and graphing calculator Activity **Algebra 2** **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N3 Use number sense to estimate and determine if solutions are reasonable

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities

D2 recognizing that data that relate two variables as linear, exponential or otherwise in nature

D7 Making inferences from data in charts tables and graphs

G6 Demonstrating deductive reasoning and mathematical justification

P5 Analyze real-world relationships that can be modeled by elementary functions

**Objective(s):** Draw Scatter plots

Find and use prediction equations

**Opening:** online quiz 2-2

**Strategies:** pp slides 58- 70

Review using two points to find slope and writing equations

**Critical Thinking/Questions:** If the graph of the equation ax + 3y = 9 is perpendicular to the graph of the equation 3x + y = -4, find the value of a. a = -1

**Closing:** review (have each student report to their partner to cover verbal learners) the critical question and answer quiz 2-3 and 2-4

Introduce optional Regression Project

**Assessment:** Study Guide 2-5

**Lesson Plan** Day 5

**Course/Lesson** 2.6 and quiz (optional) touch on this section only) **Algebra 2** **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities

G6 Demonstrating deductive reasoning and mathematical justification

P1 Model the concepts of variables, functions and relations

P2 Translating between tabular, symbolic or graphic representations of functions

**Objective(s):** Identify and graph step, constant and identity functions

Identify and graph absolute value and piecewise functions

**Opening:** online quiz 2-3

**Strategies:** pp slides 71-88

Use Kagan groups to write equations of regression lines then use the graphing calculator’s regression function to check.

**Critical Thinking/Questions:** What is a regression equation? Why would it be helpful to find a regression equation?

**Closing:** online quiz 2-4

**Assessment:** Study Guide 2-6

**Lesson Plan** Day 6

**Course/Lesson** 2.7 and review  **Algebra 2** **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities

A4 Solving algebraic equations

G1 Identifying, describing, comparing, constructing and classifying geometric figures in two and three

dimensions

G6 Demonstrating deductive reasoning and mathematical justification

**Objective(s):** Graph linear inequalities

Graph absolute value inequalities

Review for Test

**Opening:** online quiz 2-4

**Strategies:** pp 89-103

**Critical Thinking/Questions:** Given the table of incomes on page 87, predict the median outcome in 2010. Explain why your prediction is accurate.

**Closing:** Share explanations in small groups quiz 2-5 to 2-6

**Assessment:** Study Guide 2-7

**Lesson Plan** Day 7

**Course/Lesson** Review for Test **Algebra 2** **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N 3 Use number sense to estimate and determine if solutions are reasonable

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities

A4 Solving algebraic equations

M 4 Demonstrate the concept of measurement as it applies to real-world experiences

G1 Identifying, describing, comparing, constructing and classifying geometric figures in two and three

dimensions

G3 Solving problems using coordinate methods as well as synthetic and transformational methods

G6 Demonstrating deductive reasoning and mathematical justification

D2 recognizing that data that relate two variables as linear, exponential or otherwise in nature

D7 Making inferences from data in charts tables and graphs

P1 Model the concepts of variables, functions and relations

P2 Translating between tabular, symbolic or graphic representations of functions

P5 Analyze real-world relationships that can be modeled by elementary functions

**Objective(s):** review linear relations and functions

**Opening:** online quiz 2-5

**Strategies:** review quizzes from chapter and objectives on test

**Critical Thinking/Questions:** What is a regression equation? Why would it be helpful to find a regression equation?

**Closing:** p. 105 # 1-33

**Lesson Plan** Day 8

**Course/Lesson** Ch 2 Test and 3.1 **Algebra 2** **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N 3 Use number sense to estimate and determine if solutions are reasonable

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities

A4 Solving algebraic equations

M 4 Demonstrate the concept of measurement as it applies to real-world experiences

G1 Identifying, describing, comparing, constructing and classifying geometric figures in two and three

dimensions

G3 Solving problems using coordinate methods as well as synthetic and transformational methods

G6 Demonstrating deductive reasoning and mathematical justification

D2 recognizing that data that relate two variables as linear, exponential or otherwise in nature

D7 Making inferences from data in charts tables and graphs

P1 Model the concepts of variables, functions and relations

P2 Translating between tabular, symbolic or graphic representations of functions

P5 Analyze real-world relationships that can be modeled by elementary functions

**Objective(s):** assess linear relations and functions

**Opening:** questions

**Strategies:** modified test Form 2 C

**Critical Thinking/Questions:** What is a regression equation? Why would it be helpful to find a regression equation?

**Closing:** collect tests

**Assessment:** begin preview of Ch 3--vocabulary